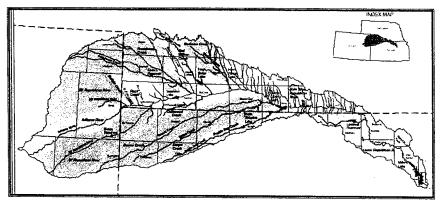
## REPUBLICAN RIVER COMPACT ADMINISTRATION

FORTY-FIFTH ANNUAL REPORT

**FOR THE YEAR 2005** 



Phillipsburg, Kansas

August 10, 2006

KAN. EXHIBIT 48 Kan v. Neb. & Colo., No. 126, Orig. Arbitration Initiated 10/21/08

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An operation deviation was approved for Lovewell Reservoir to allow storage 1.6 feet into the flood control pool. The Corps and the BOR are working for an amendment to the operations manual to make this deviation permanent.

In Milford Reservoir, a five percent deviation into the flood control pool was authorized. After October 1st, there may be more releases for navigation. The navigation season has been

Using the computer model, Riverware, the BOR is working on routing surface water on the Kansas River and a portion of the tributaries. During Fiscal Year 2006, they are modeling the economics. In Fiscal Year 2007, they are examining environmental data collection.

Report by the U. S. Geological Survey
Phil Soenksen, provided copies of PowerPoint presentation in which he presented the status of the USGS stream gaging program. The water resources data is available on the Web at http://waterdata.usgs.gov/ . He presented information regarding how the data gets from the field to the Web. They periodically make discharge measurements, nine to ten times a year, tied to the web. They periodically make discharge measurements, nine to ten times a year, to update rating curves. Bar graphs for gage stations in the Republican River were provided. A summary report for 2005 of the various sites and their funding was presented. Two sites that are either funded by the Corps or partially funded are not being funded by the Corps in 2007. Two sites showed record low annual flows, South Fork Republican at Benkelman and

Jim Putnam presented the status of the Kansas stream gaging program and presented a handout summary for 2005. The first table shows Kansas stations and their funding sources. Kansas experienced record low streamflows at the Republican River at Hardy, Beaver Creek at Luddell, on the lower Republican River at Concordia and Clay Center. A graph of annual discharges at Hardy was provided showing the low in 2005 and the high in 1951. Mr. Putnam compared the data from 2000 to 2006 to documented drought periods in Kansas, showing that 2000 to 2006 are the most severe years of these droughts. USGS probably made more extra flow measurements than in past years because of especially low flows.

Engineering Committee Report

David Barfield of Kansas presented the report of the Engineering Committee and provided copies of the report, which is attached. The Engineering Report and accounting spreadsheet will be posted on the web at www.republicanrivercompact.org. The Committee received four assignments for this year.

The first assignment was the task of writing a "user's manual" for compact accounting. That task was not completed, though a draft outline had been prepared by Kansas and discussed by the Committee. The Committee is recommending that the Administration assign this task

The second assignment was to do the Compact accounting for the year 2005. Due to a disagreement noted below, the Engineering Committee developed two different sets of accounting for 2005. The handout includes selected tables from the accounting spreadsheet. The annual accounting is part of a multiyear test for compliance. Since this is the third year in the five-year compliance test, the Committee spent some time reviewing and implementing the multiyear compliance test. The 2005 groundwater model has been reviewed by the Committee and the run is final.

Kansas revised its procedures to account for two wells which pump in Nebraska but are used in Kansas. The revision accounts for the consumptive use from these wells to be

The Committee was unable to resolve one issue. Nebraska contends that the Stipulation requires that only evaporation for non-Federal dams above Harlan County Lake be included. Kansas contends that for accounting purposes the evaporation (consumptive use) is on all non-Federal basin dams. As a consequence, the Committee has submitted in its report with two accountings: one including the non-Federal reservoir evaporation below Harlan County Lake and one without that evaporation. The Committee requests the Administration determine which of the two accountings should be considered in the final accounting.

The third assignment was for the Engineering Committee to produce a comprehensive scope of work for an irrigation return flows study. Each of the states uses different methods and/or values for irrigation return flows. Kansas believes that a more common method for determining return flows should be considered. For example, Nebraska has assumed a constant 20% return flow percentage. With the recent changes in NRD regulations such as allocations, system efficiencies that may have be adequately represented by 20% in the past are changing, and a more appropriate method or value should be considered. The Committee recommends continued discussion on the matter for possible resolution.

The fourth assignment was to prepare a regulation regarding the approval of new permits for pumping of water in one state for use in another state. Kansas provided a draft for consideration. The Committee considered its basic role to be one of facilitating discussion between the attorneys. While good progress was made the issue is not resolved. The Committee recommends that a legal committee be created to finish this regulation.

During the Engineering Committee work sessions other issues were raised. Last year, the Committee brought to the Administration the issue concerning the Harlan County Lake evaporation split when no release was made to a state. The Committee recommended that the average percentages from the previous three years when releases were being made be used. The Commissioners accepted the Engineering report with accounting done in this procedures. Ken Knox prepared a revision dated July 27, 2005, to implement this procedure. The Committee recommends that the Administration adopt the procedures formally.

Another issue that does not appear to be addressed in the accounting procedures for the Harlan County Lake evaporation split is the case when only one state takes water released from the reservoir, as happened in 2006. This is not an issue that requires resolution for 2005 accounting, but will need to be resolved for 2006. The Committee recommends it be assigned to resolve this issue by November 15<sup>th</sup>. so if the Committee fails to resolve this issue, other means of resolution can be pursued before the 2006 accounting is performed.

For 2005, Colorado discovered some inaccuracies in its data resulting in 3,000 acres of land being changed from an irrigated to non-irrigated designation. With the retiring of lands in Colorado and Nebraska currently and in Kansas in the near future through CREP and other programs, a discussion of the type of documentation needed for this retirement of acreage is needed. The Committee recommends it be assigned the task of how to document acreage

that is retired and to add those requirements to the accounting procedures and/or user's

In addition to the above recommendations, the Committee recommends that Principla Mathematica be retained for another year to run the groundwater model and maintain the

Commissioner Bleed moved to accept the Engineering Committee Report which includes two sets of accountings dependent on the non-Federal reservoir evaporation below Harlan County Lake. Commissioner Simpson seconded the motion. The motion passed. Commissioner Bleed moved to formally accept the language on total net evaporation on Harlan County Lake that should be inserted in paragraph 3 on page 23 of Appendix C of the Final Stipulation. The language was read. Commissioner Simpson seconded the motion. Chairman Pope clarified that the rule adopting the accounting procedures would not be changed, but the version of the accounting procedures would be amended. The motion

## Conservation Committee Report

Scott Guenther of the BOR provided the second annual status report on the impacts of the conservation practices of non-Federal reservoirs and land terraces study. The study is designed in two components: data collection and water balance modeling. The data collection component is divided into three elements: the inventory of non-Federal reservoirs, the inventory of land terraces, and collection of data from ponds and terraces. The States have provided an inventory of the reservoirs and will in the next year conduct field work to develop area-capacity tables. The data collected on 32 ponds will continue by the states. The terrace inventory has been developed into a GIS inventory in Nebraska, is being developed in Kansas by the BOR and later will be done in Colorado.

BOR has entered into agreements with Derrell Martin of University of Nebraska - Lincoln and Jim Koelliker of Kansas State University. UNL will be doing most of the data collection, while Dr. Koelliker will be working on updating the water balance model for use. In 2007, it is planned that two test runs will be done on Prairie Dog Creek in Kansas and Medicine Creek

At the last annual meeting, the Conservation Committee requested the Compact Administration send a letter to the Natural Resources Conservation Service for assistance in assessing terrace condition. As a result, a pilot study was completed by the Conservation Committee and NRCs to look as two counties in each Kansas and Nebraska to field verify up to 10 terraces and their condition in each basin. The pilot study is done but a review of its results is still pending. A plan on conducting a full study of all the basins on terrace conditions should result after that review.

Expenditures are on target with about 40% of the funds expended. The field work has lagged a little in getting all the monitoring equipment in the filed, but overall the study is moving forward at a reasonable pace. At this time, the Conservation Committee does not need any action by the Compact Administration.

## <u>Unfinished Business</u>

Chairman Pope reported that during the work session and the previous annual meeting a discussion occurred regarding the process for approval of new permits when water is withdrawn from one state and transported in to another state and used. As a result, Kansas